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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/614,260 | 07/08/2003 | Chi-Kong Tse | 120167-166799 | 5968 |

60172 7590 02/17/2010

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| EXAMINER | |
|---|---|
| POLTORAK, PIOTR | |
| ART UNIT | PAPER NUMBER |
| 2434 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 02/17/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| *supplemental*<br>*Notice of Allowability* | **Application No.**<br>10/614,260 | **Applicant(s)**<br>TSE ET AL. | |
|---|---|---|---|
| | **Examiner**<br>PETER POLTORAK | **Art Unit**<br>2434 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *communication received on 7/22/09*.

2. ☒ The allowed claim(s) is/are *13,15-17,30 and 32-42*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Kambiz Zand/
Supervisory Patent Examiner, Art Unit 2434

## DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/09 has been entered.

### *Allowable Claims*

In light of applicant's arguments claims 13, 15-17, 30, 32-42 are allowed.

The updated search revealed relevant art Dedieu's "Chaos Shfit Keying…" (refer to Notice of References Cited for the name, date and publication details of the reference) directed to a technique for transmitting digital information using a chaotic carrier. However, the reference does not teach the limitations required by the independent claims, i.e. "receiving the chaotic signal at a receiver storing the chaotic characteristic values of all chaotic signal generates used to transmit the message, demodulating the chaotic signal to generate the transmitted value *k,* said demodulating the chaotic signal including: determining receiving a digital message transmitted from a transmitter, the message having N digits, each of the N digits having any one of M values, and wherein each of the M values k corresponds with a $k^{th}$ chaotic signal generator having a chaotic

characteristic value associated with a chaotic algorithm to generate a chaotic signal, the chaotic signal having been transmitted within a bit period and comprising a series of numbers generated by the steps of: inputting a random number to the chaotic algorithm to generate a first chaotic number; inputting the first chaotic number to the chaotic algorithm to generate a second chaotic number; and repeating said inputting the first chaotic number to the chaotic algorithm to generate a second chaotic number, using the second chaotic number as the first chaotic number until all numbers to be transmitted within the bit period are generated, the method for receiving a digital message including the steps of comprising: receiving the chaotic signal at a receiver storing the chaotic characteristic values of all chaotic signal generators used to transmit the message, storing a demodulating algorithm; and demodulating the chaotic signal to generate the transmitted value k, said demodulating the chaotic signal including: determining the chaotic characteristic value of the received chaotic signal based at least in part on the chaotic algorithm matching the determined chaotic characteristic value of the received chaotic signal with the chaotic characteristic values stored in the receiver, and assigning the transmitted value *k* by the reference to the closest match between the determined characteristic value and the stored chaotic characteristics values" as required by claim 1 or " receiving from a transmitter a digital message having N digits, wherein each of the N digits has any one of M values, and wherein each of the M values corresponds to one of M chaotic signal generators for the transmitter, the method comprising: receiving, by a receiver, a chaotic signal from the transmitter; and evaluating, by the receiver, the chaotic signal to determine which one of the M values the chaotic signal conveys;

wherein said evaluating includes determining, by the receiver, which one of the M chaotic signal generators of the transmitter generated the chaotic signal; wherein said determining which one of the M chaotic signal generators generated the chaotic signal includes determining, by the receiver, a chaotic characteristic value for the chaotic signal and comparing the determined chaotic characteristic value to a plurality of chaotic characteristic values stored on the receiver and correspondingly associated with the M chaotic signal generators; and wherein said determining a chaotic characteristic value for the chaotic signal is based, at least in part, on a chaotic algorithm associated with the M chaotic signal generators known to the receiver, and wherein each of the M chaotic signal generators is associated with the chaotic algorithm and has a different chaotic characteristic value", as required by claim 35, for example.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached from Monday through Thursday from 9:00 until 5:00, and every other Friday from 9:00 until 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Group receptionist whose telephone number is (571) 272-1600.

/Peter Poltorak/

Examiner, Art Unit 2434

/Kambiz Zand/

Supervisory Patent Examiner, Art Unit 2434